CLAIMS:

1. A piston compressor comprising:

a cylinder block having a plurality of cylinder bores, wherein the cylinder block has two end faces at which the cylinder bores open;

a front housing member, which is secured to one of the end faces of the cylinder block;

a rear housing member, which is secured to the other one of the end faces of the cylinder block with a valve plate in between;

a through bolt for fastening the cylinder block, the rear housing member, and the front housing;

a plurality of pistons, each of which is accommodated and reciprocates in one of the cylinder bores;

a drive shaft for driving the pistons, wherein the drive shaft is rotatably supported by the cylinder block, wherein reciprocation of the pistons compress and discharge refrigerant gas; and

a gasket located between the cylinder block and the valve plate, wherein the gasket has a center hole and a plurality of bore holes, each bore hole being aligned with one of the cylinder bores, wherein a first through hole is formed in the gasket to reduce bending moment generated in the cylinder block when the through bolt is fastened, wherein the first through hole is located between an adjacent pair of the bore holes and in an imaginary circle, the center of the imaginary circle coinciding with the center of the bore hole and the radius of the imaginary circle being a first radius, and wherein the first radius is the distance from the center of the gasket to the center of one of the bore holes.

2. The compressor according to claim 1, wherein the imaginary circle is a first imaginary circle, wherein a second imaginary circle having a second radius is assumed to exist

about the center of the gasket, the second radius being greater than the first radius by a predetermined value, wherein a second through hole is formed in the gasket to reduce bending moment generated when the through bolt is fastened, and wherein the second through hole is located in a portion of the gasket between the second imaginary circle and the first imaginary circle.

3. The compressor according to claim 2, wherein the first through hole communicates with the second through hole.

4. The compressor according to claim 1, wherein the imaginary circle is a first imaginary circle, wherein a second imaginary circle having a second radius Rc is assumed to exist about the center of the gasket, the second radius Rc is different from the first radius, wherein a second through hole is formed in the gasket to reduce bending moment generated in the cylinder block when the through bolt is fastened, and wherein the second through hole is located in a portion of the gasket between the second imaginary circle and the first imaginary circle, and

wherein, with respect to a pressure applied to the cylinder bore by the gasket when the through bolt is fastened, if f denotes the pressure on the assumption that the gasket does not have the first and second through holes; Δf denotes the amount of increase of the pressure relative to the pressure f when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes; and R denotes an arbitrary distance from the center of the gasket, the second radius Rc is determined such that $f \cdot Rc$ is equal to an integration value obtained by integrating $\Delta f \cdot R$ from the center of gasket over the range of the radius of the gasket.

5. The compressor according to claim 4, wherein $f \cdot Rc$

represents a decrease amount of the bending moment when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes, and wherein the integration value represents an increase amount of the bending moment when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes.

6. The compressor according to claim 4, wherein the first through hole communicates with the second through hole.

7. The compressor according to claim 1, wherein the first through hole communicates with the center hole.

8. The compressor according to claim 1, wherein a compression chamber is defined in each cylinder bore by the corresponding piston, wherein the compressor further comprising a suction pressure zone, the internal pressure of which is a suction pressure, and a rotary valve that rotates as the drive shaft rotates, and wherein the rotary valve has an introducing passage for successively introducing gas from the suction pressure zone to the compression chambers as the drive shaft rotates.

9. The compressor according to claim 2, wherein the cylinder bores are provided about an axis of the cylinder block at equal angular intervals.

10. The compressor according to claim 9, wherein the first through hole is one of a plurality of first through holes, the second through hole is one of a plurality of second through holes, wherein the first through holes are provided about the center of the gasket at equal angular intervals, and wherein each second through hole forms a pair with one of the

first through holes.

11. A piston compressor comprising:

a cylinder block having a plurality of cylinder bores, wherein the cylinder block has two end faces at which the cylinder bores open;

a front housing member, which is secured to one of the end faces of the cylinder block;

a rear housing member, which is secured to the other one of the end faces of the cylinder block with a valve plate in between;

a through bolt for fastening the cylinder block, the rear housing member, and the front housing;

a plurality of pistons, each of which is accommodated and reciprocates in one of the cylinder bores;

a drive shaft for driving the pistons, wherein the drive shaft is rotatably supported by the cylinder block, wherein reciprocation of the pistons compress and discharge refrigerant gas; and

a gasket located between the cylinder block and the valve plate, wherein the gasket has a center hole and a plurality of bore holes, each bore hole being aligned with one of the cylinder bores, wherein the cylinder bores are provided about an axis of the cylinder block at equal angular intervals, wherein a through hole is formed in the gasket to reduce bending moment generated in the cylinder block when the through bolt is fastened, wherein the through hole is located in an imaginary circle, the radius of the imaginary circle being a first radius, wherein the first radius is the distance from the center of the gasket to the center of one of the bore holes, and wherein the through hole has a section that is located between an adjacent pair of the cylinder bores.

12. The compressor according to claim 11, wherein the through hole is a first through hole, and the imaginary circle

is a first imaginary circle, wherein a second imaginary circle having a second radius is assumed to exist about the center of the gasket, the second radius being greater than the first radius by a predetermined value, wherein a second through hole is formed in the gasket to reduce bending moment generated when the through bolt is fastened, and wherein the second through hole is located in a portion of the gasket between the second imaginary circle and the first imaginary circle.

13. The compressor according to claim 12, wherein the first through hole communicates with the second through hole.

14. The compressor according to claim 11, wherein the through hole is a first through hole, and the imaginary circle is a first imaginary circle, wherein a second imaginary circle having a second radius Rc is assumed to exist about the center of the gasket, the second radius Rc is different from the first radius, wherein a second through hole is formed in the gasket to reduce bending moment generated in the cylinder block when the through bolt is fastened, and wherein the second through hole is located in a portion of the gasket between the second imaginary circle and the first imaginary circle, and

wherein, with respect to a pressure applied to the cylinder bore by the gasket when the through bolt is fastened, if f denotes the pressure on the assumption that the gasket does not have the first and second through holes; Δf denotes the amount of increase of the pressure relative to the pressure f when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes; and R denotes an arbitrary distance from the center of the gasket, the second radius Rc is determined such that $f \cdot Rc$ is equal to an integration value obtained by integrating $\Delta f \cdot R$ from the center of gasket over the range of the radius of the gasket.

15. The compressor according to claim 14, wherein $f \cdot Rc$ represents a decrease amount of the bending moment when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes, and wherein the integration value represents an increase amount of the bending moment when a through hole is formed on the second imaginary circle of the gasket on the assumption that the gasket does not have the first and second through holes.

16. The compressor according to claim 14, wherein the first through hole communicates with the second through hole.

17. The compressor according to claim 11, wherein the first through hole communicates with the center hole.

18. The compressor according to claim 11, wherein a compression chamber is defined in each cylinder bore by the corresponding piston, wherein the compressor further comprising a suction pressure zone, the internal pressure of which is a suction pressure, and a rotary valve that rotates as the drive shaft rotates, and wherein the rotary valve has an introducing passage for successively introducing gas from the suction pressure zone to the compression chambers as the drive shaft rotates.

19. The compressor according to claim 12, wherein the first through hole is one of a plurality of first through holes, the second through hole is one of a plurality of second through holes, wherein the first through holes are provided about the center of the gasket at equal angular intervals, and wherein each second through hole forms a pair with one of the first through holes.